IN THE CLAIMS

1. (original) A method of testing a cable, said method comprising:

measuring at least one inductive ratio for the cable;

determining simultaneous multifrequency measurements of inductive gap at at least three frequencies utilizing ~~an inductive gap from~~ the at least one inductive ratio;

measuring a parallel impedance of the cable; and

determining a resistance of the cable based on the inductive gap and the parallel impedance.

2. (original) A method in accordance with Claim 1 wherein measuring an inductive ratio for the cable comprises measuring the inductive ratio for the cable at each of a plurality of predetermined frequencies.

3. (original) A method in accordance with Claim 2 wherein measuring an inductive ratio for the cable comprises measuring the inductive ratio for the cable using three different predetermined frequencies.

4. (original) A method in accordance with Claim 1 wherein measuring at least one inductive ratio for the cable comprises measuring the at least one inductive ratio for the cable substantially simultaneously with measuring the parallel impedance of the cable in real-time.

5. (previously amended) A method in accordance with Claim 1 wherein determining an inductive gap from the inductive ratio comprises averaging at least one of the inductive ratios.

6. (original) A method in accordance with Claim 1 wherein determining a resistance of the cable comprises locating the resistance value using a look-up table.

7. (previously amended) A method in accordance with Claim 6 wherein locating a resistance value using a look-up table comprises:

equating the parallel impedance gap using equations and numerical methods; and

locating the resistance value using a look-up table of inductive gap versus parallel impedance gap.

8. (previously amended) A method in accordance with Claim 7 wherein the look-up table is empirically derived and wherein locating the resistance value using the look-up table further comprises:

determining a first look-up table curve using a first predetermined resistance coupled in circuit parallel with the cable;

determining a second look-up table curve using a second predetermined resistance coupled in circuit parallel with the cable wherein the second resistance is different than the first resistance;

correlating an average of the cable inductive ratios to a look-up table inductive gap;

correlating a parallel impedance of the cable to a look-up table parallel impedance gap; and

determining a cable resistance based on the look-up table.

9-20. (canceled)